

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. – 21. (cancelled)

22. (new) A method for synchronizing an optical data signal in an optical communication system, comprising:

generating an optical pulse stream;

modulating the optical pulse signal with a data stream to form an optical data signal;

disabling the optical pulse stream;

setting a duty cycle of the data stream to a value less than fifty percent while the optical pulse stream is disabled;

enabling the optical pulse stream and subsequently disabling the data stream;

adjusting parameters of the optical pulse stream while the data stream is disabled;

enabling the data stream;

monitoring optical power level of the optical data signal; and

adjusting a phase offset of the optical pulse stream to maximize the optical power level of the optical data signal, thereby synchronizing the optical pulse signal with the data stream.

23. (new) The method of Claim 22 further comprises generating an optical pulse stream having a return to zero transmission format.

24. (new) The method of Claim 22 wherein setting a duty cycle further comprises examining an eye-diagram of the data stream and lowering a crossing-level of the eye-diagram to a value less than fifty percent, thereby reducing the duty cycle of the data stream.

25. (new) The method of Claim 24 wherein lowering a crossing-level further comprises reducing a duty cycle of the data stream at a data source for the data stream.

26. (new) The method of Claim 24 wherein lowering a crossing-level further comprises optically reducing a duty cycle of the optical data signal at an optical modulator.

27. (new) The method of Claim 22 wherein adjusting a phase offset further comprises dithering the phase offset setting at a dither frequency.

28. (new) The method of Claim 27 wherein the adjusting the phase offset further comprises maximizing a frequency component of the dither frequency at twice the dither frequency or minimizing a frequency component of the dither frequency at the dither frequency.

29. (new) A propagating wave for transmission over an optical communications system, the propagating wave comprising the optical data signal synchronized according to the method of claim 22.

30. (new) A transmitter for use with an optical communications system, said transmitter transmitting a signal comprising the optical data signal synchronized according to the method of claim 22.

31. (new) An optical communications system, the system comprising:  
a transmission medium;  
a receiver; and  
the transmitter of claim 30.